Record or his memory, neither of which is infallible. A single alphabet would appear to be the best remedy for these difficulties.

The book is liberally illustrated with line drawings, a large percentage of which have been excellently reproduced from other publications. Many of them, however, are the original work of Anthony d'Attileo.

This is the largest phylum that Hyman has attempted to cover in *The Invertebrates,* and there were those who criticized her for attempting it; indeed, it required ten years to complete more than half the group. *Mollusca II* and subsequent volumes are to be edited by Joel Hedgpeth. Libbie Hyman is retiring from the field, in her own words, "satisfied that I have accomplished my original purpose—to stimulate the study of invertebrates."

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Chemistry Series

Advances in High Temperature Chemistry. Vol. 1. LEROY EYRING, Ed. Academic Press, New York, 1967. xiv + 334 pp., illus. $14.50.

This volume is the first of a contemplated series in which established investigators in high-temperature chemistry are to present topical reviews of emerging areas of knowledge in the field.

Volume 1 consists of nine articles written by 16 contributors and is concerned primarily with the properties and reactions of chemical species existing at high temperature. Fundamental and theoretical aspects of the subject are given about equal space with the experimental and practical. This publication will be of interest to physicists, metallurgists, and ceramists as well as to chemists who are concerned with the atomic and molecular aspects of high-temperature reactions.

The contributors to this volume are R. F. Barrow, Joan B. Berkowitz-Mattuck, Alfred Büchler, K. Douglas Carlson, C. J. Cheetham, Charles R. Claydon, J. B. Ezell, Paul Goldfinger, D. L. Hildenbrand, J. L. Margrave, Thomas B. Reed, J. C. Thompson, R. J. Thorn, P. L. Timms, Edgar F. Westrum, Jr., and G. H. Winslow. The diverse subjects discussed include (in high-temperature context) the spectroscopy, electronic structure, and valence states of molecules, including primarily transition element molecules; alkali metal halide molecules and their bond relationships; some unique possibilities for chemical syntheses; adiabatic calorimetry; and plasmas. An extended definition of high-temperature chemistry is also given.

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Mineral Analysis

Atlas of Electron Microscopy of Clay Minerals and Their Admixtures. A Picture Atlas. H. BEUTELSPACHER and H. W. VAN DER MAREL. Elsevier, New York, 1967. xii + 333 pp., illus. $40.

This book is a collection of about 250 electron micrographs of clay minerals and associated materials, with short descriptions of the minerals and of the principal features of the micrographs. An introductory section describes briefly the operation of electron microscopes and methods of sample preparation, but is too brief to add to what is readily available elsewhere. A final section gives comprehensive lists of references. A novel feature is the presentation of the text in English and in German in parallel columns; the English text has very few mistakes and these are of no consequence. The book is handsome, large (20- by 30-centimeter pages), heavy with glossy paper, and expensive.

The greater part of the book is devoted to micrographs and descriptions. Taken by itself, it is not much more than an elaborate picture book, but the preface indicates that three parallel volumes will appear in which the same materials will be examined by x-ray diffraction, infrared, and differential thermal methods of analysis. This ambitious project cannot be assessed until it is seen how the total information is integrated, but the reviewer has considerable misgivings as to whether it is a good policy to subdivide the information on the basis of experimental techniques. A subdivision on the basis of mineral groups, with all physical methods of analysis brought together and the results contrasted, would have enabled the authors to discuss many subtleties of structure and composition and how they are revealed by this or that method. It seems now that the investigator will have to surround himself with four massive volumes and make such comparisons for himself. The quality of the electron micrographs is generally good but not exceptionally so. The reviewer regrets that the authors did not include at least some of the outstanding micrographs obtained by other workers in their more specialized studies; the reader could then go to the literature and obtain additional information. Admittedly, this additional information is promised in the future volumes, but one wonders just how much can be achieved by the two authors and their assistants, however industrious they may be. In the present volume, there often seems to be a tiresome repetition of similar micrographs, but this may be justified later by the other data to be given. The reviewer greatly deplores the complete omission of electron diffraction data from this book, since electron diffraction and microscopy go together experimentally and together form a powerful method of investigating both form and structure. Will this be covered by a fifth volume? Taken by itself the present volume does not add greatly to what is already available. One hopes that the authors will eventually give a comprehensive integration of the whole subject matter and that the publishers will find it possible to produce the subsequent volumes less expensively.

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Books Received

Advanced Propulsion Concepts. Proceedings of the 4th symposium, Palo Alto, Calif., April 1965, sponsored by the U.S. Air Force Office of Scientific Research and United Aircraft Corp. Gordon and Breach, New York, 1967. xx + 295 pp., illus. $31.50.

Advances in Carbohydrate Chemistry. Vol. 22. Melville L. Wolfrom and R. Stuart Tipson, Eds. Academic Press, New York, 1967. xiv + 576 pp., illus. $21.50.

Advances in Clinical Chemistry. Vol. 10. Oscar Bodansky and C. P. Stewart, Eds. Academic Press, New York, 1967. xx + 401 pp., illus. $17.

Advances in Drug Research. Vol. 4. N. J. Harper and Alma B. Simmonds, Eds. Academic Press, New York, 1967. viii + 274 pp., illus. $12.50.

Advances in Immunology. Vol. 7. F. J. Dixon, Jr., and Henry G. Kunkel, Eds. Academic Press, New York, 1967. xvi + 349 pp., illus. $15.

(Continued on page 104)